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PATENT
APPLICATION 10/664,754
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AMENDMENTS

AMENDMENTS TO THE CLAIMS

1.   (Previously presented) A method for representing HMI user screens comprising the activities of:

via an information device:

obtaining an organization and a hierarchy of a collection comprising a plurality of human machine interface (HMI) screen nodes, each of the plurality of HMI screen nodes a visual representation of a corresponding visual display of a human machine interface adapted to interpret communications from a human operator of an industrial plant to an automated machine controller;

automatically determining an arrangement of the collection;

responsive to a detected collision between a parent node of said hierarchy of said collection and a leaf node of the parent node, automatically adjusting a position of said parent node; and

rendering the collection according to the arrangement.

2.   (Previously presented) The method of claim 1, further comprising calculating a position of the leaf node.

3.   (Original) The method of claim 1, further comprising calculating a position of a visible leaf.

4.   (Previously presented) The method of claim 1, further comprising calculating the position of the parent node.

5.   (Previously presented) The method of claim 1, further comprising detecting the collision.

6.   (Previously presented) The method of claim 1, further comprising updating the position of the parent node.

7.   (Previously presented) The method of claim 1, further comprising updating the position of the parent node upon detecting the collision.

8.   (Original) The method of claim 1, further comprising recursively calculating a position of each of the plurality of HMI screen nodes.

9.   (Currently Amended) The method of claim 1, further comprising in response to the detected collision, recursively calculating a position of each of the plurality of HMI screen nodes and updating the position of the parent node, based upon each recursive calculation, upon detecting the collision until no collision is detected.

10.   (Previously Presented) The method of claim 1, further comprising changing a visibility of a node.

11.   (Previously presented) The method of claim 1, further comprising changing a visibility of a node and children of the parent node.

12.   (Original) The method of claim 1, wherein the arrangement is a tree arrangement.

13.   (Original) The method of claim 1, wherein the arrangement is a vertical tree arrangement.

14.   (Original) The method of claim 1, wherein the arrangement is a horizontal tree arrangement.

15.   (Original) The method of claim 1, wherein the arrangement is rendered with equal inter-generational node spacing.

16.   (Original) The method of claim 1, wherein the arrangement is rendered with equal intra-generational node spacing.

17.   (Previously presented) The method of claim 1, wherein the arrangement is rendered with each parent node is aligned centrally to all children of that parent.

18.   (Original) The method of claim 1, wherein the arrangement is rendered with all nuclear children separated equally.

19.   (Previously presented) A machine-readable medium containing instructions for activities comprising:

> obtaining an organization and a hierarchy of a collection comprising a plurality of human machine interface (HMI) screen nodes, each of the plurality of HMI screen nodes a visual representation of a corresponding visual display of a human machine interface adapted to interpret communications from a human operator of an industrial plant to an automated machine controller;
>
> determining an arrangement of the collection;
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> responsive to a detected collision between a parent node of said hierarchy of said collection and a leaf node of the parent node, automatically adjusting a position of said parent node; and
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> rendering the collection according to the arrangement.

20.   (Previously presented) A device for providing a representation of user screens for an HMI comprising:

> means for obtaining an organization and a hierarchy of a collection comprising a plurality of human machine interface (HMI) screen nodes, each of the plurality of HMI screen nodes a visual representation of a corresponding visual display of a human machine interface adapted to interpret communications from a human operator of an industrial plant to an automated machine controller;
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> means for determining an arrangement of the collection;
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> a processor adapted to, responsive to a detected collision between a parent node of said hierarchy of said collection and a leaf node of the parent node, automatically adjust a position of said parent node; and

means for rendering the collection according to the arrangement.

21.   (New) The method of claim 1, wherein the arrangement is rendered responsive to a user-specified inter-generational spacing between nodes.

22.   (New) The method of claim 1, wherein the arrangement is rendered responsive to a user-specified intra-generational spacing between nodes.

23.   (New) The method of claim 1, wherein the arrangement is rendered responsive to a user-specified node wall thickness.

24.   (New) The method of claim 1, wherein the arrangement is rendered responsive to a predetermined upper and lower limit of inter-generational spacing between nodes.

25.   (New) The method of claim 1, wherein the arrangement is rendered responsive to a predetermined upper and lower limit of intra-generational spacing between nodes.